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May 9, 1967)

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KSC LAUNCH OPERATIONS DIRECTIVE NO. 4A

To: Distribution

From: H. J. Kapryan
Director of Launch Operations

Subject: POST-FRT HARDWARE AND SOFTWARE CHANGES

1.1 PURPOSE

This directive defines the Operations philosophy toward Post-Flight Readiness Test changes and specifies the actions to be taken by Operations elements to assure that such changes will not change flight readiness status.

2.1 SCOPE

The provisions of this directive are applicable to all missions of the KSC Manned Launch Programs and to all KSC Operations elements and associated Contractor organizations involved in the checkout of Space Vehicles and Launch Complexes. Changes under the scope of this directive are:

a. Program-approved hardware changes to Space Vehicles, Launch Complex functional ESE/GSE, MSOB ACE-S/C Ground Station Control and Computer Rooms.

b. Program-approved software changes in computer programs for RCA 110A Computers, Launch Vehicle Flight Computers, or ACE-S/C CDC 160G Computers.

3.1 DEFINITION

A Post-FRT change is defined as a hardware or software change, approved by the appropriate Program Office or representative, that is introduced or proposed after completion of the Flight Readiness Test.

All changes such as Field Engineering Changes (FEC), Engineering Change Proposals (ECP), Engineering Orders (EO), Software Change Authorizations (SCA), Program Release Notices (PCR), Emergency Program Release Notices (EPCR), etc. are included in the above definition.

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4.1 RESPONSIBILITIES

The Directors of Launch Vehicle Operations and Spacecraft Operations will be responsible for approval of proposed changes originating within their respective Directorates.

The Launch Operations Manager will be responsible for necessary coordination (subsequent to above approval action) of Post-FRT changes with the appropriate KSC Program Office and appropriate Configuration Control Board.

Final approval of Post-FRT changes rests with the Director of Launch Operations or his designee.

5.1 POST-FRT CHANGE PHILOSOPHY

It is the basic policy of this Directorate that no change should be initiated for hardware or software after the FRT for the pertinent mission. If such a change should be proposed it will be reviewed prior to implementation by appropriate Operations elements to assure that it does not impact the flight readiness status.

6.1 PROCEDURE

Approval for incorporation of Post-FRT changes will be accomplished in the following manner:

a. Launch vehicle hardware and software changes will be reviewed by engineer/operations personnel and approved by the Director of Launch Vehicle Operations or his designee in case of absence.

b. Spacecraft hardware and software changes will be reviewed by engineer/operations personnel and approved by the Director of Spacecraft Operations or his designee in case of absence.

c. Following approval by the appropriate Director, all proposed changes will be forwarded to the Launch Operations Manager for assessment and for obtaining approval of the Director of Launch Operations.

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d. Each change will be accompanied by a written summary giving title, control number, description, justification, systems affected, implementation data, and testing required. Implementation data will include responsible individuals, calendar schedule, and estimated manhours. Justification will indicate why the change must be incorporated prior to launch and the potential problems that might result in so doing.

End of Directive.